



PATENT  
1422-0428P

IN THE U.S. PATENT AND TRADEMARK OFFICE

Applicant: KUBOTA et al. Conf.: 9805  
Appl. No.: 09/581,594 Group: 1751  
Filed: January 15, 2000 Examiner: L. M. DOUYON  
For: PROCESS FOR PRODUCING DETERGENT  
PARTICLES

37 C.F.R. § 1.132 DECLARATION

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

I, Teruo Kubota, residing in Wakayama-shi, Wakayama-ken, Japan hereby declare and state  
as follows:

1. That I am one of the co-inventors of U.S. Application Serial No. 09/581,594 filed on  
June 15, 2000, entitled PROCESS FOR PRODUCING DETERGENT PARTICLES. I am  
thoroughly familiar with the contents of said Application, its prosecution before the United States  
Patent and Trademark Office and the references cited therein.

2. That I am a graduate of Nagoya University, School of Engineering, Department of Chemical and Biological Engineering in the year 1993, majoring in chemical engineering.

3. That I have been employed in Kao Corporation since the year 1993 and have been assigned to the Research Laboratories.

4. That I have been involved in the research and development of powder process engineering since 1993.

5. That I hereby affirm that the process of the present invention is completely different from the process disclosed in Yamashita U.S. Patent No. 5,486,516 (hereinafter simply referred to as "Yamashita US '516") and the method disclosed in Yamashita U.S. Patent No. 5,736,501 (hereinafter simply referred to as "Yamashita US '501") for the reasons set forth below.

6. Under my direction and control tests were carried out using impellers having a shape of a paddle (*as recited in pending claim 1*), as set forth below, and wherein the results of such testing are set forth in the TABLE provided below.

In the below TABLE, Example 1 corresponds to the present invention and the "Additional Test" corresponds to the present invention where the Froude Number is 3.8 (*in view of the claimed upper limit of 4 in claim 1*).

As to Yamashita US '516, a test was conducted on Example 9 thereof, and a follow-up test was done based on Example 13 thereof, which Examples are similar to the present invention in the use of spray-dried particles as base particles.

As to Yamashita US '501 a test was conducted on Example 11 thereof.

Each of the tests were conducted in the same manner and under the same conditions described in Example 1 of the present application, or Yamashita US '516, or Yamashita US '501, as appropriate. The "Additional Test" corresponding to the instant invention was conducted under the same conditions as Example 1 of the present invention, except for the Froude Number being 3.8.

As shown in the following TABLE the degree of particle growth is quite unexpectedly different between the present invention (*see test results for "Example 1" and "Additional Test"*) and the comparative Examples corresponding to Yamashita US '516 (*Examples 9 and 13*) and Yamashita US '501 (*Example 11*).

**TABLE**

	Present Invention		Yamashita US '516		Yamashita US '501
	<i>Example 1</i>	<i>Additional Test</i>	<i>Example 9</i>	<i>Example 13</i>	<i>Example 11</i>
<b>Base Particle [<math>\mu\text{m}</math>]</b>	225	225	250	267	253
<b>Detergent Particle [<math>\mu\text{m}</math>]</b>	245	263	405	402	380
<b>Degree of Particle Growth [—]</b>	1.09	1.17	1.62	1.51	1.50
<b>Dissolution Rate [%]</b>	98	96	74	76	78
<b>Froude Number</b>					
<b>Agitation Impeller [—]</b>	1.0	3.8	6.7	2.3	3.8
<b>Disintegration Impeller [—]</b>	0	0	800	800	800

As seen in the above TABLE, only with the present invention (“*Example 1*” and “*Additional Test*”) is there achieved both the properties of a low degree of particle growth in combination with a high dissolution rate.

In contrast to the particles of the present invention, the particles prepared according to the teachings of the cited Yamashita US '516 and Yamashita US '501 references possessed much higher degrees of particle growth and had a lower degree of dissolution.

Such comparative test results show and evidence that the present invention as recited in claim 1 has unexpected and advantageous results associated therewith that would not have been obvious to one of ordinary skill in the art at the time of the discovery of the present invention.

7. The undersigned petitioner declares further that all statements made therein of my own knowledge are true, all statements made therein on information and belief are believed to be true, and all statements made therein are made with the knowledge that whoever, in any matter within the jurisdiction of the Patent and Trademark Office, knowingly and willfully falsifies, conceals, or covers up by any trick, scheme, or device a material fact, or makes any false, fictitious or fraudulent statements or representations, or makes or uses any false writing or document knowing the same to contain any false, fictitious or fraudulent statement or entry, shall be subject to the penalties set forth under 18 U.S.C. 1001, and that violations of this paragraph may jeopardize the validity of the application or document, or the validity or enforceability of any patent, trademark registration, or certificate resulting therefrom.

8. Further, declarant saith not.

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Teruo Kubota

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Date

*JWB/jwb*